Delaware Department of Transportation

PHASE 2 ARCHAEOLOGICAL INVESTIGATIONS AT THREE PREHISTORIC SITES: 7NC-E-43, 7NC-E-45, AND 7NC-D-75 NEW CASTLE COUNTY, DELAWARE

BY

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DIRECTOR

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ABSTRACT

Phase II excavations were undertaken at 7NC-E-43, 7NC-E-45, and 7NC-D-75 within the proposed ROW for the expansion of Route 4. Excavations at all three sites revealed that they had been used as hunting camps from the Woodland I Period, ca. 2500 B.C. to A.D. 600, with later occasional visitation by Woodland II groups ca. 1000 A.D. to A.D. 1650. All of the sites were associated with the White Clay Creek and its tributaries and most likely functioned as processing stations outlying large base camps, such as the Clyde Farm complex near Churchmans Marsh. No in situ remains with good stratigraphic context were present and most of the artifacts recovered had been disturbed by natural erosion and plowing. None of the sites were considered eligible for inclusion on the National Register of Historic Places and no further research was recommended for any of the three sites.

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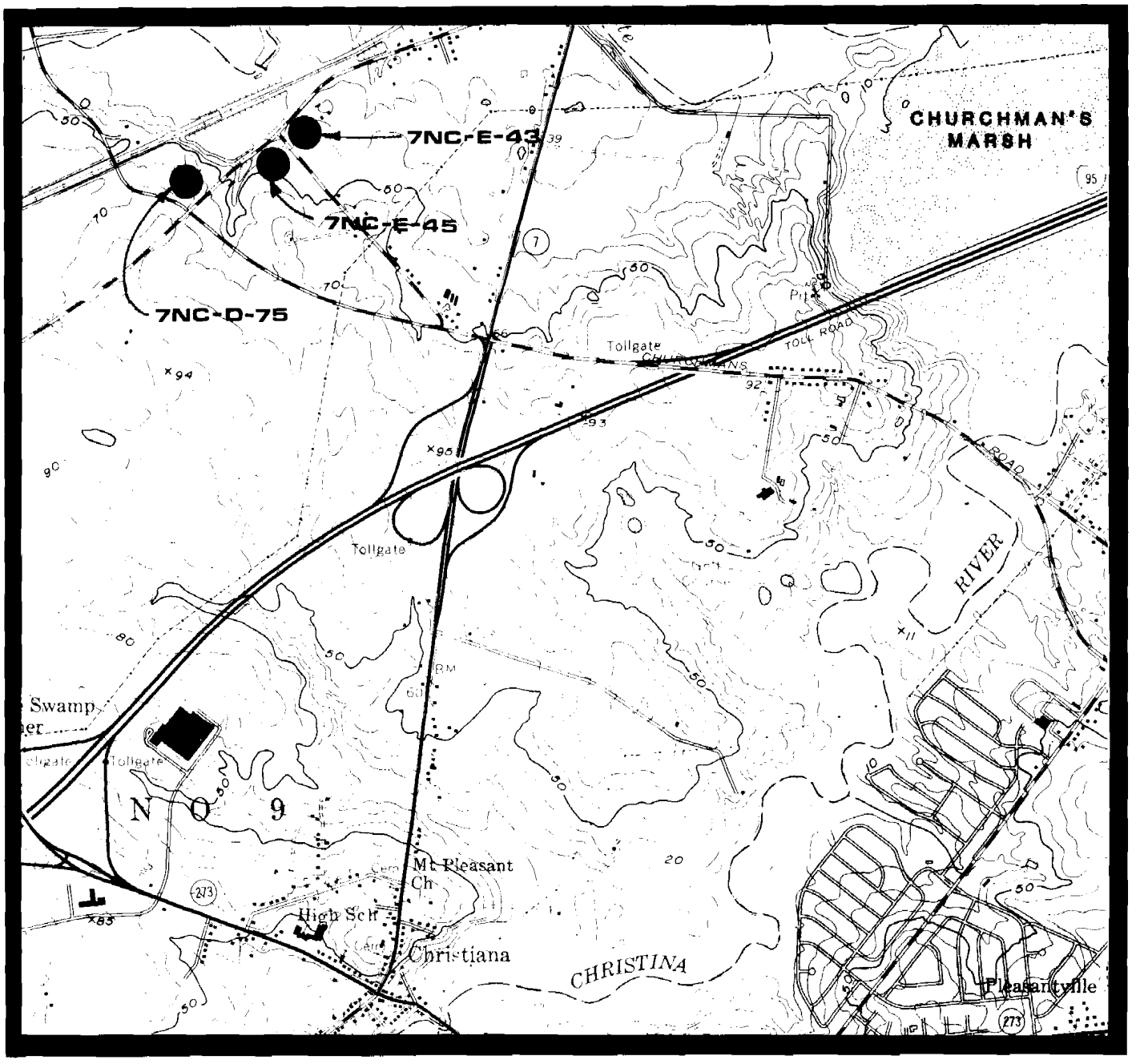


SITE LOCATION MAP

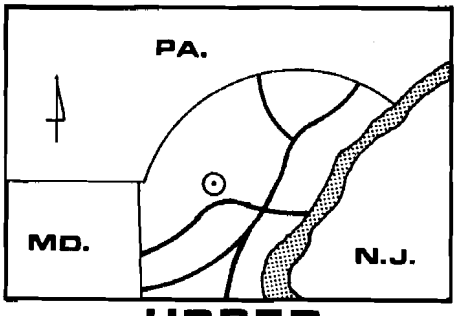
1000 0 1000 3000 5000

SCALE IN FEET

1 .5 0 1

SCALE IN KILOMETERS

KEY MAP



UPPER NEW CASTLE CO., DELAWARE

PLATE 1

SITE LOCATIONS

7NC-E-43
7NC-E-45
7NC-D-75

INTRODUCTION

The purpose of this report is to describe Phase II excavations at three prehistoric archeological sites in New Castle County, Delaware (Fig. 1 & Plate 1). Excavations were carried out during the late Summer and Fall of 1982. A description of the findings of the excavations follows a discussion of the regional prehistory and the regional context of the sites.

BACKGROUND INFORMATION

In order to understand the methods utilized in the test excavations at 7NC-E-43, 7NC-E-45, and 7NC-D-75, it is necessary to look at the general prehistory of northern Delaware. Previous research will also be considered.

Regional Prehistory*

The prehistoric archaeological record of northern Delaware can be divided into four blocks of time: The Paleo-Indian Period (ca. 12,000 B.C. - 6500 B.C.), The Archaic period (6500 B.C. - 3000 B.C.), the Woodland I Period (3000 B.C. - A.D. 1000), and the Woodland II Period (A.D. 1000 - A.D. 1650). A fifth time period, the Contact period, may also be considered and spans from A.D. 1650 to A.D. 1750, the approximate date of the final Indian habitation of northern Delaware in anything resembling their pre-European Contact form. Each of these periods is described below.

Paleo-Indian Period (12,000 B.C. - 6500 B.C.) - The Paleo-Indian Period encompasses the time period of the final disappearance of Pleistocene glacial conditions from Eastern North America and the establishment of more modern Holocene environments. The distinctive feature of the Paleo-Indian Period is

*This summary of the regional prehistory is abstracted from Custer (1980, 1981).

an adaptation to the cold, and alternately wet and dry, conditions at the end of the Pleistocene and the beginning of the Holocene. This adaptation was primarily based on hunting and gathering, with hunting providing a large portion of the diet. Hunted animals may have included now extinct megafauna and moose. A mosaic of deciduous, boreal, and grassland environments would have provided a large number of productive habitats for these game animals in northern Delaware and watering areas would have been particularly good hunting settings.

Tool kits of the people who lived at this time are oriented toward the procurement and processing of hunted animal resources. A preference for high quality lithic materials has been noted in the stone tool kits and careful resharpening and maintenance of tools was common. A lifestyle of moving among the game attractive environments has been hypothesized with the social organizations being based upon single and multiple family bands. Throughout the 5500 year time span of the period, the basic structure has remained relatively constant with some modifications being seen as Holocene environments appearing at the end of the Paleo-Indian Period.

Numerous Paleo-Indian sites are noted for northern Delaware including a hunting and processing site near Hockessin, possible quarry sites near Iron Hill, and isolated point finds.

Archaic Period (6500 B.C. - 3000 B.C.) - The Archaic Period is characterized by a series of adaptations to the newly emerged full Holocene environments. These environments differed from earlier ones and were dominated by mesic forests of oak and hemlock. A reduction in open grasslands in the face of warm and wet conditions caused the extinction of many of the grazing animals hunted during Paleo-Indian times; however, browsing species such as deer flourished. Sea level rise is also associated with the beginning of the Holocene Period in northern Delaware. The major effect of the sea level rise

was to raise the water table, which helped to create a number of large swamps such as Churchmans Marsh. Adaptations changed from the hunting focus of the Paleo-Indians to a more generalized foraging pattern in which plant food resources would have played a more important role. Large swamp settings such as Churchmans Marsh apparently supported large base camps as indicated by the remains at the Clyde Farm Site. A number of small procurement sites in favorable hunting and gathering locales are also known in northern Delaware.

Tool kits were more generalized than earlier Paleo-Indian tool kits and showed a wider array of plant processing tools such as grinding stones, mortars, and pestles. A mobile lifestyle was probably common with a wide range of resources and settings utilized on a seasonal basis. A shifting band-level organization which saw the waxing and waning of group size in relation to resource availability is evident. Known sites include large base camps (Clyde Farm Site) and smaller processing sites situated in a variety of locations.

Woodland I Period (3000 B.C. - A.D. 1000) - The Woodland I Period can be correlated with a dramatic change in local climates and environments that seems to have been a part of events occurring throughout the Middle Atlantic region. A pronounced warm and dry period set in and lasted from ca. 3000 B.C. to 1000 B.C. Mesic forests were replaced by xeric forests of oak and hickory and grasslands again became common. Some interior streams dried up; but the overall effect of the environmental change was an alteration of the environment, not a degradation. Continued sea level rise also made many areas of the Delaware River and Bay shore the sites of large brackish water marshes which were especially high in productivity. The major changes in environment and resource distributions caused a radical shift in adaptations for prehistoric groups. Important areas for settlements included the major

river floodplains and estuarine swamp areas. Large base camps with fairly large numbers of people are evident in many areas of northern New Castle County such as the Clyde Farm Site, the Crane Hook Site, and the Naamans Creek Site. These sites seem to have supported many more people than previous base camp sites and may have been occupied on a year-round basis. The overall tendency was toward a more sedentary lifestyle.

The overall tool kits show some minor variations as well as some major additions from previous Archaic tool kits. Plant processing tools became increasingly common and seem to indicate an intensive harvesting of wild plant foods that may have approached the efficiency of agriculture by the end of the Woodland I Period. Chipped stone tools changed little from the preceding Archaic Period; however, more broad-blade knife-like processing tools became prevalent. Also, the presence of a number of non-local lithic raw materials indicates that trade and exchange systems with other groups were beginning to develop. The addition of stone, and then ceramic, containers is also seen. These items allowed more efficient cooking of certain types of food and may also have functioned as storage for surplus plant foods. Storage pits and house features during this period are known from the Delaware Park Site. The social organizations seem to have undergone radical changes during this period. With the onset of relatively sedentary lifestyles and intensified food production, which might have produced occasional surpluses, incipient ranked societies may have begun to develop, as indicated by the presence of extensive trade and exchange and some caching of special artifact forms. In any event, by the end of the Woodland I Period a relatively sedentary lifestyle existed in northern Delaware.

Woodland II Period (A.D. 1000 - A.D. 1650) - In many areas of the Middle Atlantic the Woodland II Period is marked by the appearance of agricultural

food production systems; however, in northern Delaware there are no indications of such a shift. The settlements of the Woodland I Period, especially the large base camps, were also occupied during the Woodland II Period and very few changes in basic lifestyles and artifact assemblages are evident. Intensive plant utilization and hunting remained the major subsistence activities up to European Contact. Similarly, no major changes are seen in social organization for the Woodland II Period of northern Delaware.

Contact Period (A.D. 1650 - A.D. 1750) - The Contact Period is an enigmatic period of the archaeological record of northern Delaware which began with the arrival of the first substantial numbers of Europeans in Delaware. The time period is enigmatic because few Native American archaeological sites that clearly date to this period have yet been discovered in Delaware, although numerous Contact Period sites are evident in southeastern Pennsylvania. It seems clear that Native American groups of Delaware did not participate in much interaction with Europeans and were under the virtual domination of the Susquehannock Indians of southern Lancaster County, Pennsylvania. The Contact Period ended with the virtual extinction of Native American lifeways in the Middle Atlantic area except for a few remnant groups.

Previous Research and Regional Settings

Previous research at the sites included random surface collection of 7ND-E-43, 7NC-E-45, and 7NC-D-75 carried out in 1979 (Thomas 1980). No subsurface testing was conducted and no data were provided on the surface distribution of the recovered artifacts. Table 1 lists the artifacts recovered from Thomas' excavations.

TABLE 1

Site 7NC-E-43:

1 fragmentary quartz projectile point (stemmed-Savannah River like)
6 quartz fragments
3 fire-cracked rocks
1 19th century historic debris unspecified

Site 7NC-E-45:

1 quartz projectile point (stemmed)
4 quartz chips
4 quartz fragments
2 flint chips
1 flint fragment

Site 7NC-D-75:

1 chert projectile point (lanceolate - Fox Creek like)
1 jasper utilized fragment
21 quartz chips
19 quartz fragments
1 quartzite chip
2 flint chips
2 jasper chips
3 fire-cracked rocks
2 hammerstones
1 milling stone
historic redware sherds, brick, and glass

The limited number of artifacts makes it difficult to ascribe a function to these three sites; however, the low number of artifacts and limited tool types suggests some kind of specialized, short-term processing sites. The absence of diagnostic artifacts makes it difficult to establish a time period of occupation; although, an occupation between 5000 BC and AD 500 seems most likely.

All three sites are located on bluffs bordering a small, swampy tributary of the White Clay Creek (Plate 1). Site 7NC-D-75 lies closest to the confluence of the tributary and the White Clay Creek, while the other two lie further upstream on the ephemeral tributary on gently sloping ground. The sites, therefore, all share the feature of being located in highly productive habitats and should show similar activities by prehistoric inhabitants. Thomas states that these sites "...represent a portion of a subsistence-settlement

pattern adapted to a 'highland flats' environment and may tie to a more sedentary base camp which would be located in a stream valley location" (Thomas 1980:VI-15). The artifacts recovered are few in number and do not necessarily support this contention, although the regional setting of the sites does. All three sites are located slightly upstream from a series of large base camp sites located near the confluence of White Clay Creek and Churchmans Marsh (Custer 1982). There appears to be a temporal similarity among the larger base camps and the three sites proposed for research may have been outlying processing sites which functioned to support them. As such, these sites would be significant for they would reveal a range of activities not seen at the larger, and more completely studied, base camps.

CURRENT RESEARCH 7NC-E-43

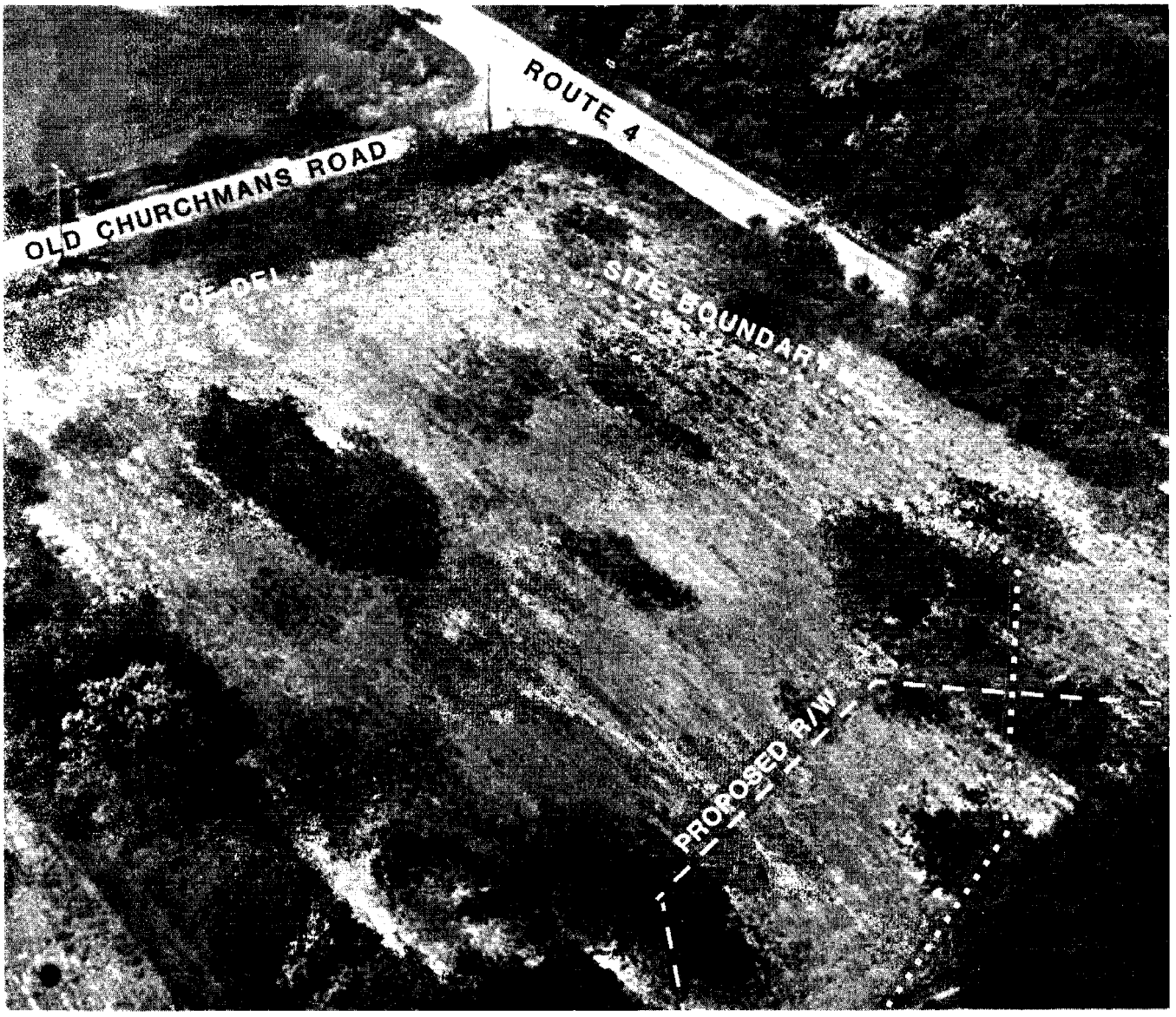
Introduction and Research Methods

The major research task of the current investigation of 7NC-E-43 was the determination of eligibility of the site for inclusion on the National Register of Historic Places. Factors in the determination of eligibility included analysis of the site's limits and its contextual integrity and its contribution to research on the prehistory of Northern Delaware.

7NC-E-43 is located southeast of the junction of Route 4 and Old Churchmans Road (Plate 2 & Figure 2). It is primarily flat except for the northeast portion which slopes to Old Churchmans Road. The site is bounded on the north and south by fallow field, on the east by residential property and fallow field, and on the west by Old Churchmans Road. About 100 meters to the north the active floodplain of the White Clay Creek begins with its channel lying an additional 200 meters north (Fig. 1).

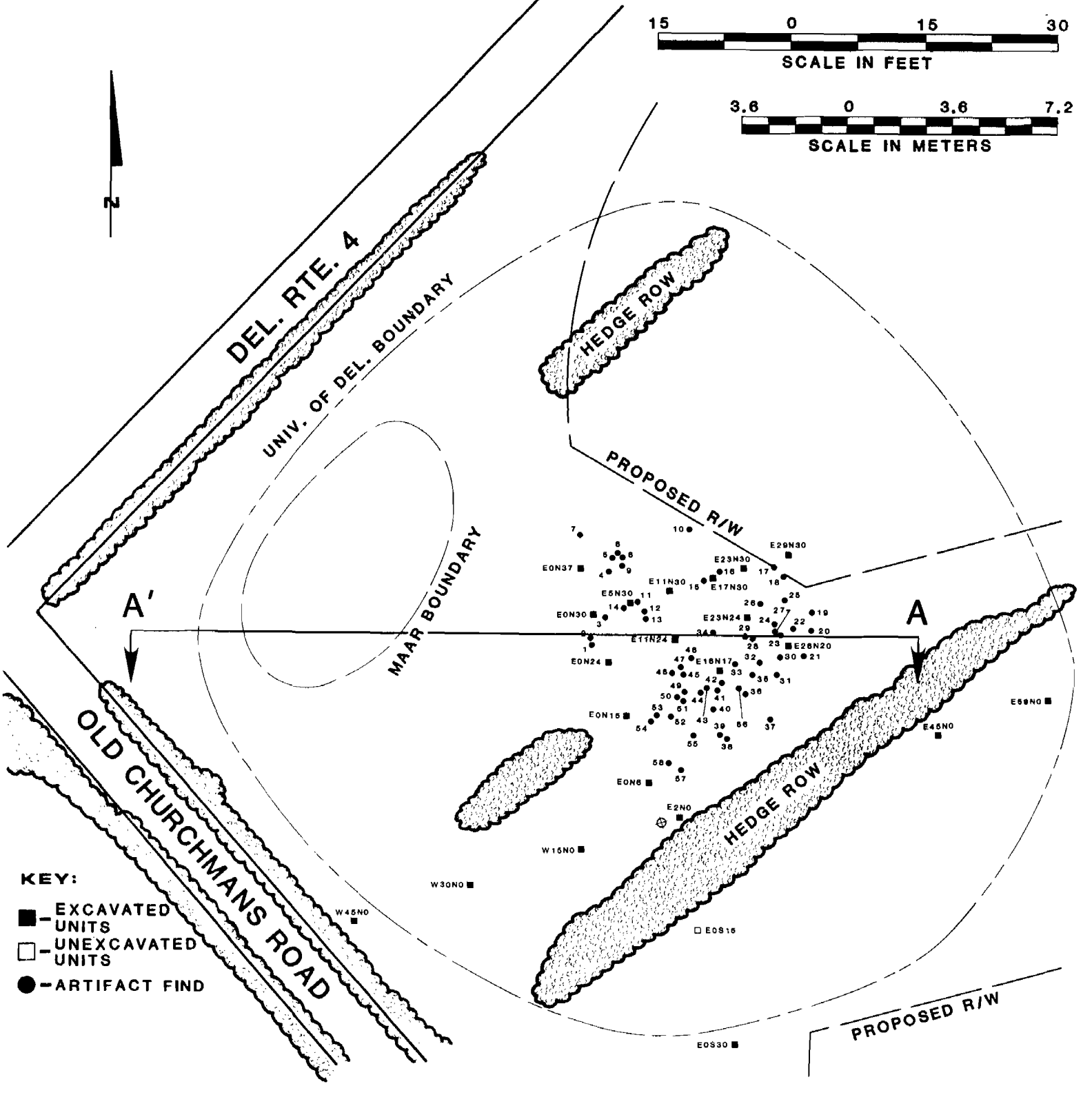
The field was lying fallow when excavations were begun in September of 1982 and had not been plowed for several years. The proposed research methods for the site included a controlled surface collection and subsurface test excavations. The purpose of the surface collection was to determine the artifact types present, their distribution, and density. This information was used to determine the placement of 1 x 1 meter test units along with considerations of varied topography. These considerations allowed the study of the soil stratigraphy and testing for the existence of buried landscapes. Surface viewing conditions were poor, however, and excavations were begun without the benefit of data from a surface collection. Eleven 1 x 1 meter units were laid out strictly in relation to topography to ascertain soil stratigraphy and the presence or absence of buried landscapes. Six were placed along the baseline of the proposed Route 4 right-of-way and five on a

PLATE 2



SITE LOCATION
7NC-E-43

FIGURE 2
SITE 7NC-E-43
TEST UNITS
&
MAPPED ARTIFACTS



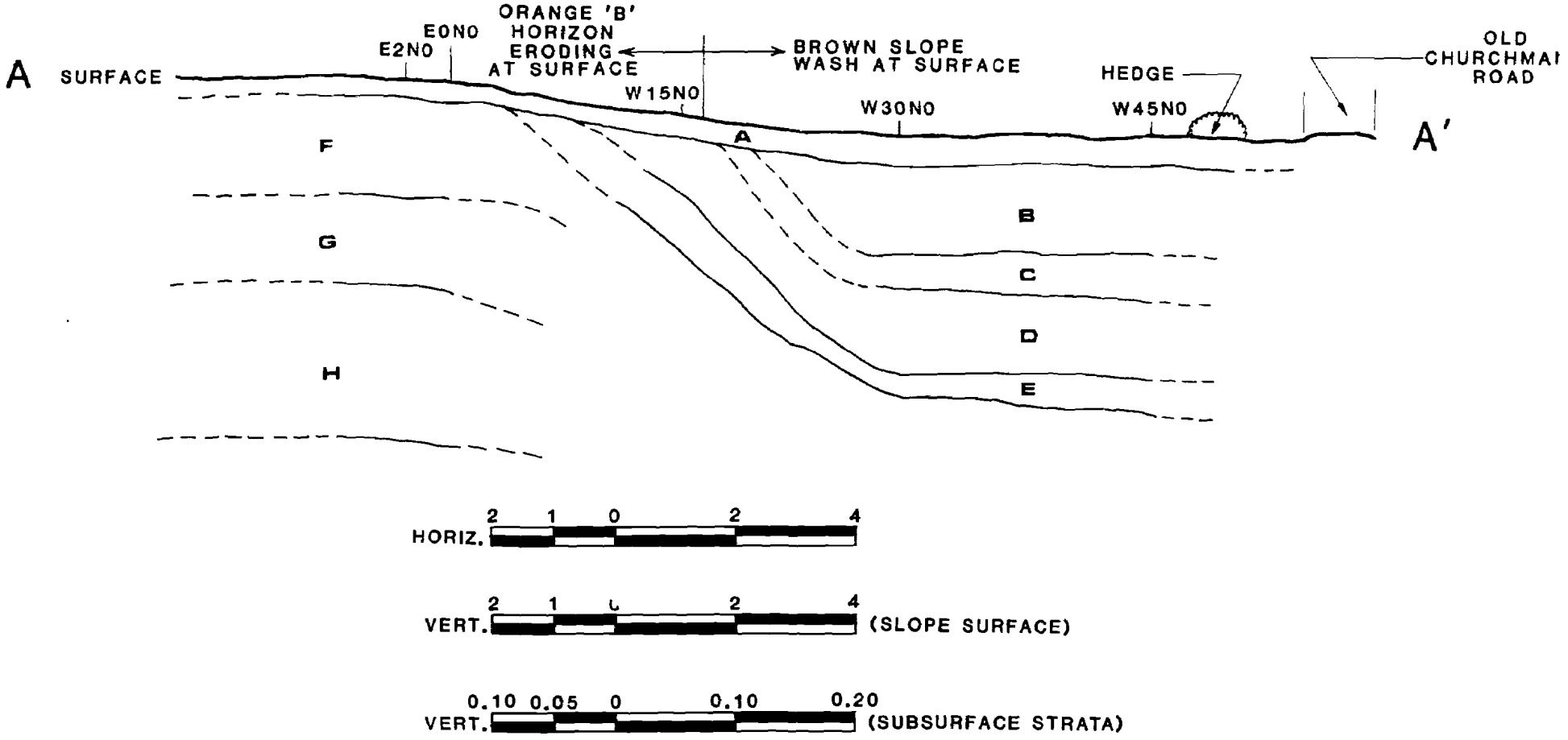
line perpendicular to and bisecting the baseline (Fig. 2). All units were flat-shoveled and all soil sifted through ¼" mesh screen. Excavation was by arbitrary 10 cm levels within natural soil strata, except for the plow zone, which was excavated as one level regardless of depth. (Similar methods were also utilized at the other two sites).

Results

Appendix I lists all test unit profiles and Appendix II provides a summarized artifact inventory. Test units W45NO and W30NO revealed a buried organic horizon at depths of 45 and 50 cm below surface (Horizon B, Fig. 3). This horizon contained both historic and prehistoric artifacts. Units W15NO and E2NO further up the slope were excavated to depths of 50 and 140 cm, respectively, and contained no indication of buried horizons (Horizons F, G. H, Fig. 3). Well-developed, blocky, clayey soils were encountered immediately below the plow zone. No artifacts or features were found below the buried horizon in either of the two units mentioned. Therefore, it is concluded that the buried horizon, because it included historic artifacts, is an early historic plow zone that has been buried by slope wash. Most of the historic artifacts are whiteware and 19th century redware and it is concluded that the majority of the historic deposition occurred after 1820. Because there were few (3) quartz flakes recovered from the buried horizon in test unit W30NO and no diagnostic artifacts and features in W30NO and W45NO it was concluded that no further testing of the buried stratum was warranted.

Test units EON15, EON30, E45NO, E59NO, EOS15, EOS30, and EOS40 were then laid out to determine presence/absence, density, and distribution of artifacts within the remainder of the site. Units EON15 and EON30 were placed to the north of the Route 4 baseline and yielded sizable numbers of

FIGURE 3
7NC-E-43
SOIL STRATIGRAPHY ALONG PROPOSED RTE. 4 BASELINE, LOOKING SOUTH



KEY:

A – PLOW ZONE WITH ARTIFACTS

B – DISTURBED HORIZON WITH HISTORIC & PREHISTORIC ARTIFACTS

C – ORANGE/BROWN & MED. BROWN SANDY LOAM (SLOPE WASH), WITH HISTORIC & PREHISTORIC SITES

D – ORANGE/BROWN & LIGHT BROWN SANDY CLAY, AND CLAY LOAM WITH PEBBLES, STERILE

E – ORANGE/BROWN & LIGHT BROWN CLAY, AND CLAYEY LOAM WITH POCKETS OF GRAY CLAY, STERILE

F – ORANGE/BROWN SILTY LOAM, STERILE

G – ORANGE/BROWN COARSE SANDY LOAM WITH PEBBLES, STERILE

H – TAN/ORANGE COARSE SANDY CLAY WITH CLAY LENSES, STERILE

jasper flakes in the plow zone (Appendix II). However, only two jasper flakes were found in the first 20 cm of the subsoil of EON3O and none in the subsoil of EON15. Excavations to depths of up to 120 cm below the surface revealed no intact buried horizons.

The other five units were placed south of the large hedgerow bisecting the site. Three units - E45NO, E59NO, and EOS3O - were excavated and yielded few artifacts. Aided by a post-hole digger, excavations were taken to depths below one meter. No artifacts or features were found below the plow zone and the subsoil consisted of blocky-structured clays and sandy clay loams more than 15,000 years old. Due to the antiquity of the soils and the scarcity of artifacts, excavation of units EOS15 and EOS40 was cancelled.

At this point surface viewing conditions improved due to plowing and discing, allowing a controlled surface survey of the site. The previous nine test units indicated that the majority of artifacts were located in the northern part of the site (units EON15 and EON3O) and the soils here and a few meters to the northeast were considered to be the least eroded. Erosion and deposition in other areas made the validity of a controlled surface collection of them most dubious. Therefore, the controlled surface survey covered only the northeast portion of the site.

The surface survey recovered a total of 58 artifacts (Appendix II) and Figure 2 shows the location of these artifacts. The greatest concentration of artifacts, including a projectile point, occurred in the flat area east of unit EON15. Therefore, units E16N17 and E28N2O were opened in the area of concentration and excavated to depths of 15 cm into the subsoil (35 cm below surface). Fewer artifacts were recovered from the plow zones of these units than from the plow zones of EON15 and EON3O, which were located in an area of lower surface artifact density. From these data it was determined that the

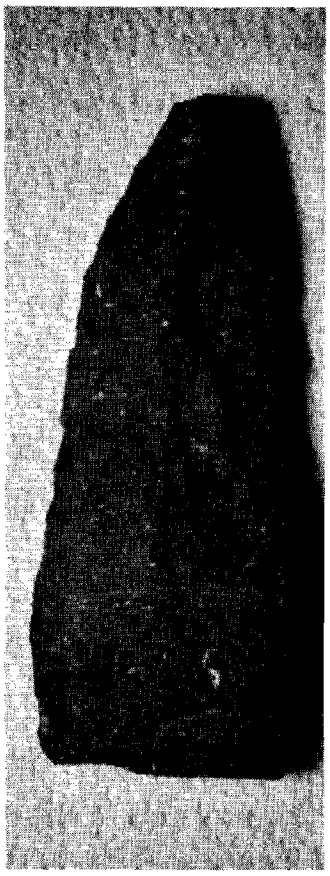
most economical method for extracting data from this badly eroded plow zone site with no subsurface features was to excavate a series of 1 x 1 meter plow zone squares in the vicinity of the squares with the least erosion and highest plow zone artifact densities. Excluding the eroded slope to the west of EON3O, ten test units were excavated and prehistoric, 19th century, and 20th century historic artifacts were found in all of these units. Diagnostic artifacts included a quartz notched projectile point with the base broken at the notch; a shoulderless squared-base purple argillite projectile point resembling a Fox Creek type; a sherd of Minguannan cord-marked ceramics; and flakes of quartz, quartzite, red jasper, brown jasper, and chert.

Summary and Conclusions

A controlled surface survey was conducted and twenty-one 1 x 1 meter test units were excavated. These yielded a total of 460 historic and prehistoric artifacts: 58 on the surface, 360 in the plow zone, and 42 in the subsoil. As evidenced by the approximately 60 cm of slope wash encountered in units W45NO and W3ONO, the shallow depth of the plow zone, and the great age of the subsoils, this site is heavily eroded. Most of this erosion has probably taken place within the last 150-175 years.

Diagnostic prehistoric artifacts included three Minguannan ceramic sherds from the Woodland II Period, one red jasper squared-base projectile point, one argillite squared-base shoulderless projectile point, and one notched quartz projectile point with the base snapped across the notch, the last three coming from Woodland I Period (Plate 3). The site's probable use was as a sporadically visited procurement site used by small bands. Its proximity to tributaries of the White Clay Creek places it in a favorable position for the hunting of water-attracted game animals. The most intensive prehistoric utilization of the site took place on the berm in the northeast section, closest to the White Clay Creek floodplain as evidenced by the accumulation

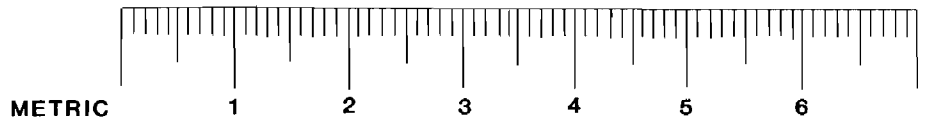
PLATE 3
SITE 7NC-E-43



ARGILLITE PROJECTILE POINT

RED JASPER SQUARE BASE PROJECTILE POINT

QUARTZ PROJECTILE POINT



of artifacts in this area. The artifacts, including bifaces and flakes, are indicative of limited refurbishing of tool kits and processing activities. However, plowing and natural erosion along the berm have destroyed the primary context of any archeological remains. Moving away from the White Clay Creek to the south of the berm, prehistoric activities associated with the creek would be expected to diminish in frequency and the artifacts did exhibit such patterning. Consequently, it is concluded that moving south of the berm, artifacts are infrequent and the information potential of this section of the site is low. Because of the severe soil erosion of this site, the scarcity of artifacts in undisturbed contexts, the total lack of intact subsurface features, and the overall low density of artifacts, the site is not considered to be eligible for the National Register of Historic Places and no further work is recommended.

This site can be considered in the context of local settlement patterns. The environmental setting suggests that the area was attractive to game and a good hunting site. Archeological remains from the site indicate that it was used for the hunting and processing of game animals at least between 2500 B.C. and 600 A.D. with some later visitation by Woodland II groups (Custer 1983). Tools broken in use at the site were discarded and new replacements were manufactured from locally available cobble deposits. Throughout the history of its use, it is unlikely that the activities carried out at the site varied greatly. The evidence suggests a very specialized set of activities which remained relatively consistent for a period of at least 3000 years.

The site's major occupation seems to have been during the Woodland I Period, when societies became increasingly sedentary and were no longer engaged in a seasonal movement cycle. By this period, 7NC-E-43 was probably an outlying hunting station that helped to support a more sedentary population

at one of the nearby base camps, such as the Clyde Farm site near Churchmans Marsh (Custer 1982). Although the archeological remains at 7NC-E-43 reveal interesting patterns of human land use during the prehistoric past, the absence of in situ remains with good context precludes both its inclusion on the National Register and further work at the site.

CURRENT RESEARCH 7NC-E-45

Introduction and Research Methods

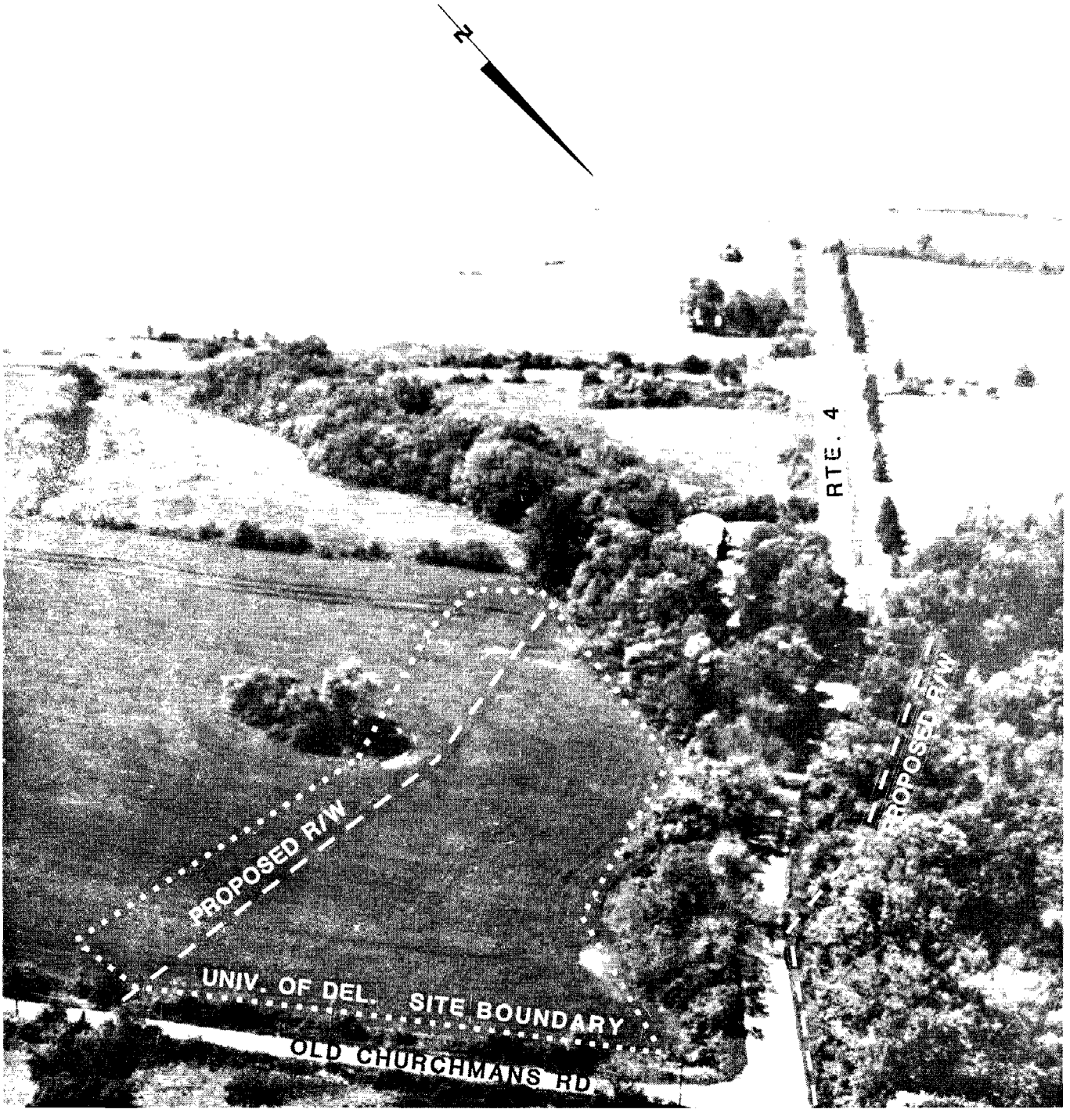
The primary objective of this investigation was the determination of the eligibility of 7NC-E-45 for inclusion on the National Register of Historic Places. Research included definition of the site limits, contextual integrity of the site, and the site's potential contribution to regional prehistory. The limits of the site were approximated by Thomas (1980) and were to be more clearly defined by this excavation.

7NC-E-45 is located to the west of Old Churchmans Road, opposite site 7NC-E-43 (Fig. 1). It is bounded on the north and west by the current Route 4, on the east by Old Churchman Road, and on the south by an undetermined boundary for the proposed Route 4 right-of-way (Plate 4 & Figure 4). The site is mostly flat but slopes upward to the southwest to a small knoll. The portion of the site within the proposed right-of-way extends 150 meters east-west and 50 meters north-south. It should be noted that were it not for the historic period intrusion of Old Churchmans Road, 7NC-E-43 and 7NC-E-45 might have been considered one continuous site. The research methods included a controlled surface survey and subsurface testing using 1 x 1 meter units, the placement of which was based upon the surface collection and the need to investigate buried landscapes.

Results

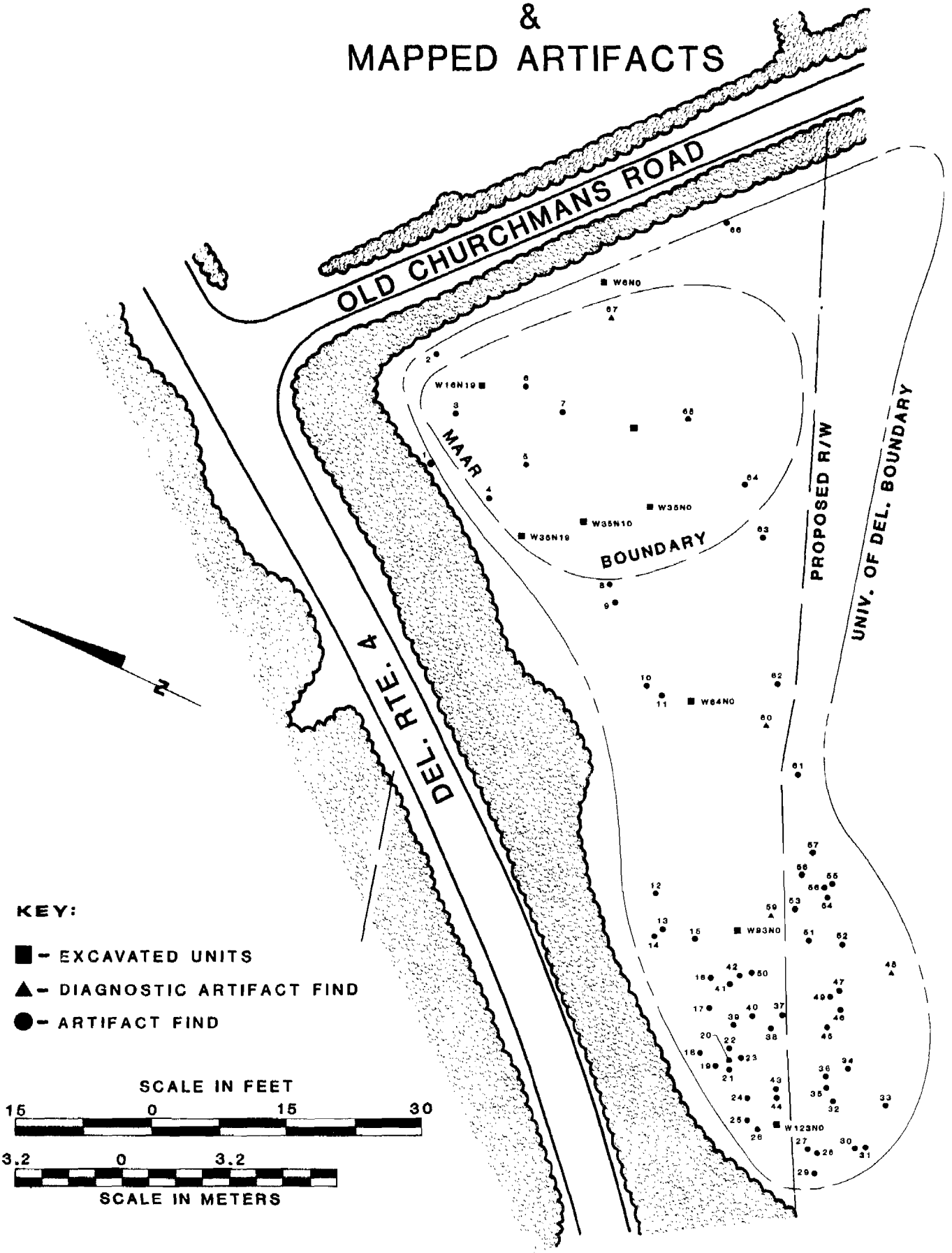
The field was plowed and weathered when work commenced in September, 1982. Initial inspection of the site included areas in and out of the proposed right-of-way. The knoll to the southwest and south of the site was examined as well as the intervening ground. Appendix III lists test unit profiles and Appendix IV provides a summarized artifact inventory. Artifacts

PLATE 4



SITE LOCATION
7NC-E-45

FIGURE 4
7NC-E-45
TEST UNITS
&
MAPPED ARTIFACTS



were sparsely scattered and only one small clustering was noted - in the western end of the right-of-way on the slope. This cluster included a small quartz contracting stem projectile point and several quartz flakes in an area covering approximately 25-30 square meters (Fig. 4). However, uncontrolled plowing activity by the tenant farmer between mapping and collection caused many of these artifacts to be lost. Subsequently, five test units (W6NO, W35NO, W64NO, W93NO, W123NO) were placed in line at 30 meter intervals running up the slope from east to west (Fig. 4). A sixth unit (W35N19) was placed 19 meters to the north, still within the right-of-way. Units W93NO and W123NO were situated on the slope while the remainder were in flat areas of the site. All of these units contained plow zones ranging in depth from 24 to 40 cm below the surface. The subsoils were excavated to depths of 65 to 120 cm below the surface. Test unit W35N19 contained laminated organic zones, most likely slope wash, to a depth of 57 cm below surface. Beneath this and in the previous five units were subsoils of yellow, orange, and brown sandy clays and clayey loams often containing many pebbles (Appendix III).

A total of 15 prehistoric and 35 historic artifacts were recovered from the units' plow zones (Appendix IV). The former were quartz, jasper, quartzite, and chert flakes and quartz chunks while the latter consisted of 19th century redware and plain whiteware and some bottle glass and badly oxidized nail fragments. Two jasper flakes were found at depths of 10 and 30 cm below plow zone in unit W35NO. No diagnostic prehistoric artifacts were found. In order to determine the slope of the original land surface between units W35NO and W35N19, another unit was placed at W35N10 (Fig. 4). It was excavated to a depth of 118 cm below surface and exhibited a shallower plow zone more similar to W35NO and a typical subsoil profile interrupted only by a probable rodent disturbance. Unit W16N19 was also excavated and contained

3 flakes in the plow zone and a quartz flake in the subsoil 20 cm below the plow zone.

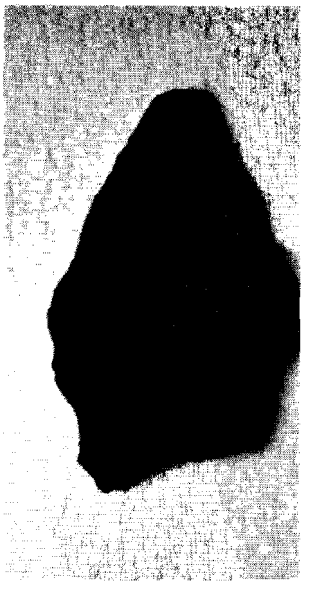
The initial disrupted surface survey indicated that a widely scattered artifact distribution would be expected and a later (successfully mapped) surface survey was limited to a corridor 20 meters north and south of the proposed Route 4 right-of-way. It was felt that it would be unproductive to stray far out of the right-of-way, given the low density of artifacts encountered in the initial inspection. A total of 67 artifacts were mapped in the second survey, with over half (34) being quartz flakes. Four projectile points were found in the survey (Plate 5), with the remainder of the artifacts including 1 hammerstone, 1 quartz core, and non-diagnostic flakes, chunks, and fire-cracked rocks. Forty-eight of the artifacts were found in the vicinity of units W93NO and W123NO, up the slope on the west end of the site. Of that total, about half (25) were in the right-of-way. The plow zone of these sites yielded only 8 flakes and 2 quartz chunks and nothing from the subsoil. Two other points were found out of the right-of-way and are included in the collection of the earlier, disrupted surface survey. One is a small contracting stem quartz point and the other is the non-diagnostic medial section of a fine-grained gray chert biface. Thirty-six other artifacts, mostly quartz and jasper flakes and chunks, were also recovered.

Summary and Conclusions

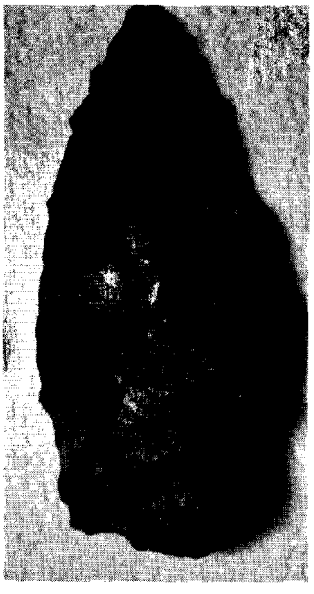
A controlled surface collection was conducted and eight 1 x 1 meter test excavations were excavated at this site. Of the 185 historic and prehistoric artifacts recovered, all but 4 were from either the surface or the plow zone. These exceptions were 2 jasper flakes, 1 quartz flake, and 1 redware sherd. No undisturbed buried horizons or other intact subsurface features were discovered during this investigation. The recovered prehistoric artifacts date

PLATE 5
SITE 7NC-E-45

QUARTZ PROJECTILE POINT

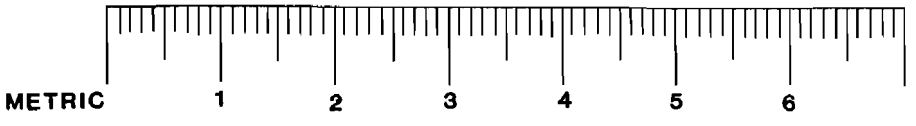


QUARTZITE PROJECTILE POINT



RED JASPER STEMMED
PROJECTILE POINT

RED JASPER FOX CREEK
LIKE PROJECTILE POINT



from about 2500 B.C. to 600 A.D., or entirely within the Woodland I period. 7NC-E-45 represents a hunting and processing station associated with nearby White Clay Creek and its place in local prehistory should be similar to that of 7NC-E-43. Because of the severe soil erosion present, the almost total lack of artifacts in undisturbed contexts, and the complete lack of intact subsurface features, this site is not considered to be eligible for the National Register of Historic Places and no further work is recommended.

CURRENT RESEARCH 7NC-D-75

Introduction and Research Methods

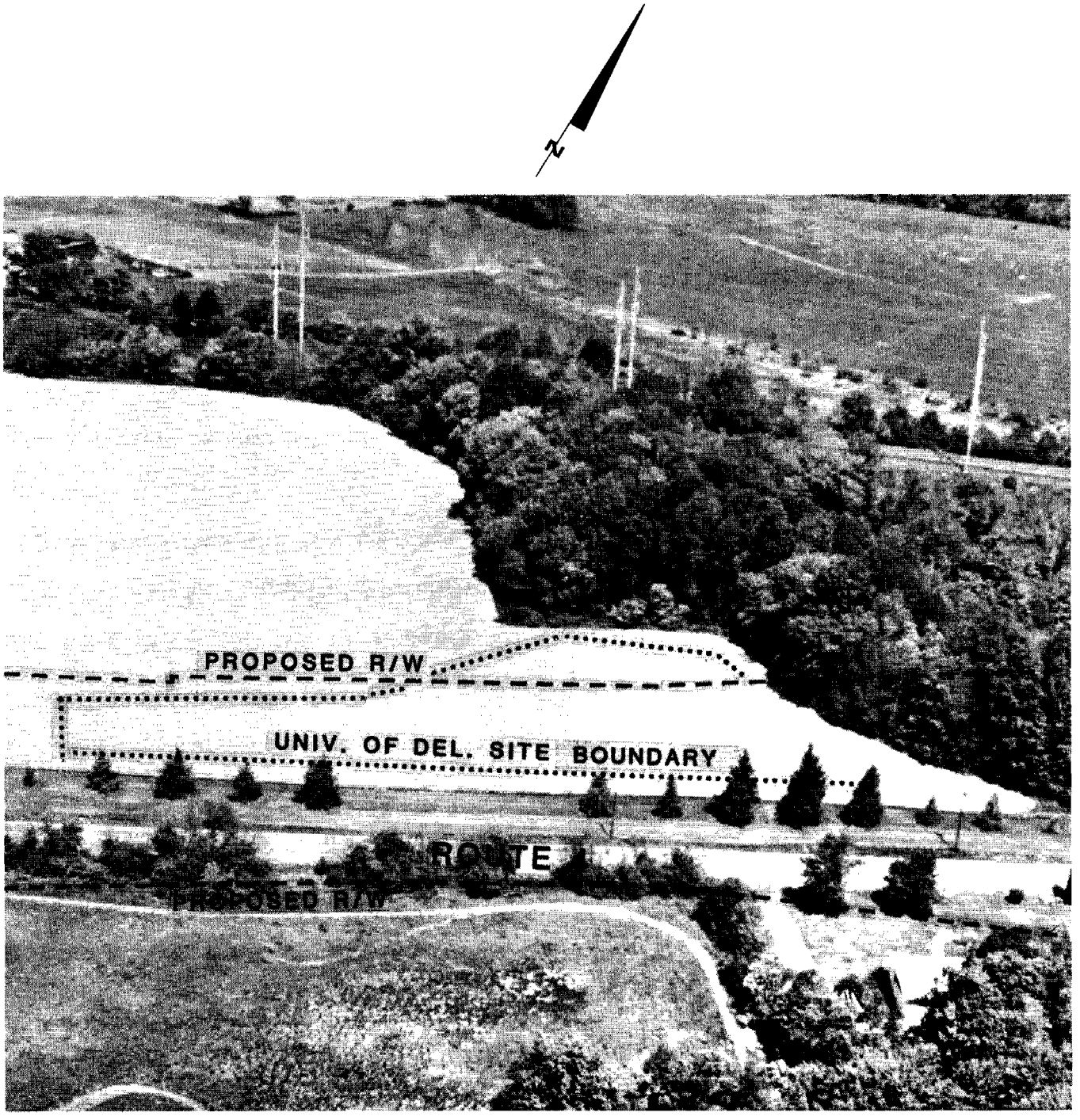
7NC-D-75 is located in a field under cultivation north-northeast of the intersection of New Churchmans Road and the existing Route 4 (Plate 6 & Figure 5). From the Delaware Park entrance road on the southwest, it slopes down to the northwest in an undulating fashion to a steep bank leading down approximately 20 feet to the White Clay Creek floodplain. Approximately half of the proposed 55 foot width of the Route 4 right-of-way lies in this field. The site measures approximately 200 meters northeast/southwest. At the time of the survey, the field was in soybeans with a surface visibility of less than 10%.

The primary purpose of the investigation was the determination of eligibility of the site for inclusion on the National Register of Historic Places. Determination of eligibility included definition of the site limits, determination of the contextual integrity of the site, and contributions the site could make to regional research. The planned research strategy included a controlled surface survey, a posthole grid, and 1 x 1 meter excavations. However, because of the low surface visibility and the fact that the tenant farmer was not planning to remove his crop until November, a controlled surface survey could not be conducted.

Results

In order to determine artifact types present, their density, distribution, and the presence or absence of undisturbed subsurface cultural features, six 1 x 1 meter test units were excavated (Fig. 5). Test units 1 and 2 were placed on the berm overlooking the sharp dropoff to the White Clay Creek floodplain, units 3 and 4 on the heel of a small terrace, about 100 meters southwest of the floodplain, and 5 and 6 on another terrace about 175 meters back. Each pair of units was placed so as to test specific landforms. Appendix V lists the profiles and Appendix VI provides artifact inventories.

PLATE 6

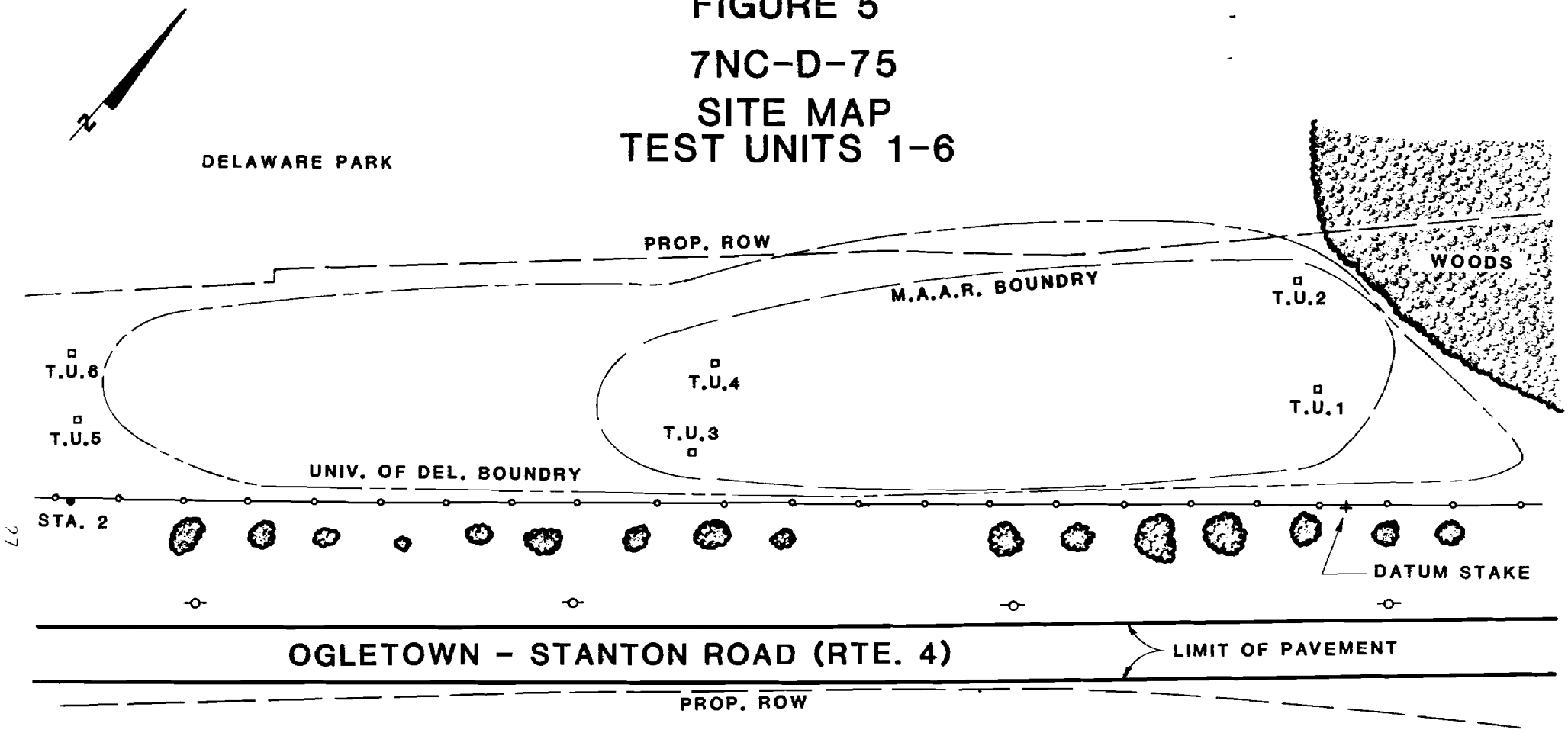


SITE LOCATION
7NC-D-75

FIGURE 5

7NC-D-75

SITE MAP
TEST UNITS 1-6



Units 1 and 2 were in an area of severe erosion, with gullies in the soil and large cobbles washing out on the surface. Unit 1 was excavated to a depth of 150 cm below surface. The plow zone yielded one sherd of Minguannan ceramics, several jasper, quartz, and chert flakes, and 19th and 20th century historic material. The plow zone extended to a depth of 20 cm below surface, with the subsoil being an extremely compact clay and clayey loam with many pebbles. From 0-10 cm below plow soil, 1 jasper flake scraper and 1 jasper flake were found. Unit 2 contained a plow zone of the same depth and produced 24 jasper, chert, and quartz flakes and a heavily reworked quartz biface with a basal configuration resembling a Susquehanna Broadspear point (Plate 7). Units 3 and 4 yielded several quartz, quartzite, jasper, and chert flakes. The plow zone of Unit 3 contained a non-diagnostic fragment of a red jasper biface. Two quartzite flakes were found in the first 10 cm below the plow zone. Due to the evident erosion and the extreme age of the B horizon in units 1-4, the subsoils of units 3-6 were not excavated beyond 3 or 4 centimeters below the plow zone. Units 5 and 6 produced a combined total of 5 quartz flakes, 1 quartzite Rossville-like projectile point (Plate 7), 11 red and whiteware sherds, and 1 glass fragment. These units contained a total of 127 historic and prehistoric artifacts, with the number decreasing away from the White Clay Creek floodplain.

Summary and Conclusions

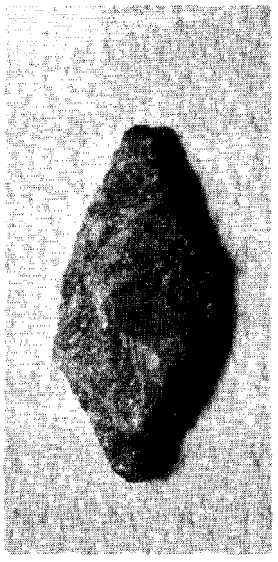
7NC-D-75 is the most severely eroded of the three sites discussed. There are no intact subsurface features; indeed, the plow zone overlies Pleistocene soils in all units and the surface is littered with eroded cobbles and pebbles. Only 5 of the 127 artifacts were recovered from the subsoil and these could be explained by normal rodent or root activity. All of the historic

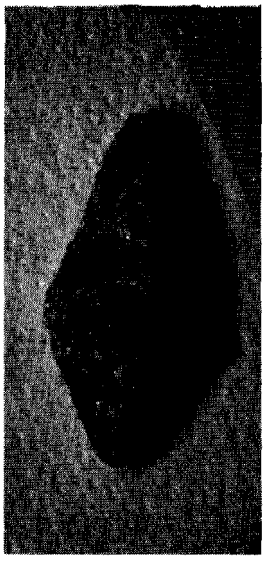
PLATE 7

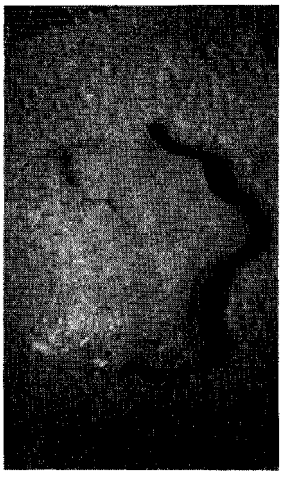
SITE 7NC-D-75

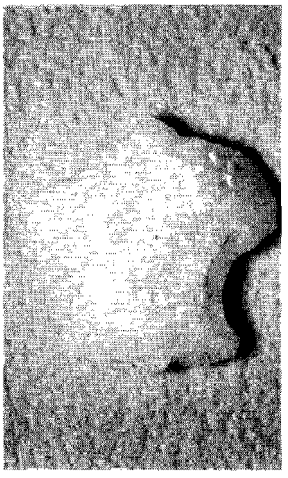
QUARTZITE ROSSVILLE LIKE

PROJECTILE POINT





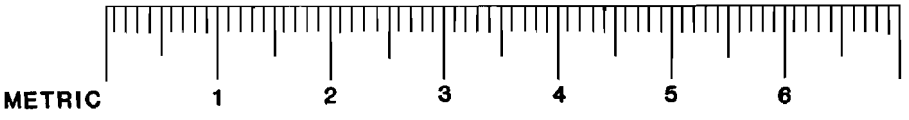




QUARTZ SIDE NOTCHED

SUSQUEHANNA BROADSPEAR

LIKE PROJECTILE POINT



artifacts postdate 1820 and the low density of artifacts in the units and the lack of any indication of subsurface features obviated the need for further investigation of historic cultural material. The diagnostic prehistoric artifacts include the sherd of Minguannan ceramics from the Woodland II Period, the Susquehanna Broadspear-like reworked quartz point, and the Rossville quartzite point from the Woodland I Period. The site's probable use was similar to 7NC-E-43 and 7NC-E-45: as a hunting and a food processing station associated with the game attractive area of the White Clay Creek floodplain during the Woodland I and II periods.

Because of the severe soil erosion present, the almost total lack of artifacts in undisturbed contexts, and the complete lack of intact subsurface features, this site is not considered to be eligible for the National Register of Historic Places and no further work is recommended. The research carried out to determine the eligibility of the site and previous work produced useful information but further data gathered from the site is most likely to be redundant.

GENERAL CONCLUSIONS

All three sites described in this report represent ephemeral occupations of areas adjacent to the White Clay Creek and one of its low order tributaries. All are badly disturbed by plowing and erosion and no further work is necessary for any of the sites. In general, the investigations reported here provided significant information. Determination of the dates of occupation, the site size, and the functional classes of artifacts present provided useful information for reconstructing past regional settlement patterns. In this sense, the investigations reported here were necessary to recover the sites' significant information. However, erosion has severely altered the integrity of the surface and plow zone artifact distributions. Intra-site variability cannot, therefore, be studied at these sites and further research is not necessary. Additional work would only collect more artifacts and redundant information.

Although the special circumstances of the investigations of these three sites necessitated the separation of the location and identification and determination of eligibility investigations into two separate projects and contracts, it would have been more efficient to combine these two phases of archaeological investigation into a single project. The sites were small enough that the additional testing to determine the integrity of their contexts would not have added much to the initial costs and additional controlled surface collections did not entail much more time and money. Knowledge of the nature of their contexts would have precluded the need to determine their eligibility for the National Register. In the cases of these small, disturbed surface sites, the collecting of the necessary data to provide an assessment of their context and determine their limits generally gathers sufficient significant data, such that when similar small, disturbed sites are encountered in future studies, extra time and money should be spent in early stages to determine contextual integrity and site limits. In this manner, the significant

data which these sites have to offer can be efficiently collected. If the additional testing shows some deposits with good context, determination of eligibility and final mitigation can be undertaken. If not, research at such sites can be considered finished.

Finally, appreciation is extended to the involved individuals from the Division of Highways, Federal Highway Administration, Bureau of Archaeology and Historic Preservation and the University of Delaware for their support, administration, and services.

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Thomas, Ronald A.

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APPENDIX I:

7NC-E-43 TEST UNIT PROFILES

7NC-E-43, 7NC-E-45 and 7NC-D-75, SOILS/KEY

Horizon Number

1 Dark gray brown sandy loam
2 Medium dark brown silty loam with pebbles
3 Medium brown silty loam
4 Medium brown sandy loam
5 Tan-brown sandy loam
6 Orange brown sandy clay
7 Light brown, tan, and gray mottled clay
8 Orange brown sandy loam
9 Medium brown clayey loam
10 Light brown clayey loam
11 Orange brown clayey loam with pockets of gray clay
12 Orange brown silty loam
13 Tan orange coarse sandy clay
14 Tan clay
15 Orange yellow silty clay
16 Yellow brown sandy loam
17 Yellow brown silty clay
18 Orange sand and gravel
19 Orange brown silty and clayey loam
20 Orange brown clayey loam
21 Orange yellow very sandy loam
22 Yellow brown silt loam
23 Reddish brown coarse sand with numerous pebbles
24 Reddish brown coarse sand without pebbles
25 Coarse orange clayey sand
26 Medium orange and light gray clay interbedded with coarse sandy clay
27 Tan silty clay
28 Light gray and light orange silty clay with FeO_2 lenses
29 Light orange sandy clay
30 Orange brown coarse sand
31 Orange clay
32 Coarse orange sand with FeO_2 staining and cobbles
33 Gray brown silt loam
34 Laminated yellow and brown silt
35 Gray brown silt loam with FeO_2 stains
36 Yellow brown sandy clay
37 Orange and gray clay
38 Tan orange sandy loam
39 Mottled gray, yellow, and orange sandy loam
40 Orange yellow medium sand
41 Mottled gray, yellow, and orange sandy silt
42 Medium brown sandy silt
43 Tan silty sand with pebbles
44 Tan silty sand with cobbles
45 Mottled red, gray, and orange sandy clay with pebbles
46 Light brown sandy loam
47 Extremely compact orange brown loam with pebbles and cobbles
48 Light brown silty loam
49 Medium orange sandy clay with pebbles

APPENDIX I, PROFILES OF TEST UNITS, 7NC-E-43

Unit	Depth	Soil
W45NO	0- 17	1 (P.Z.)
	17- 53	4
	53- 76	1 (buried horizon)
	76-103	6
	103-110	7
W30NO	0- 25	1 (P.Z.)
	25- 54	8
	54- 67	9 (buried horizon)
	67- 90	10
	90-104	11
W15NO	0- 22	1 (P.Z.)
	22- 36	10
	36- 50	20
E2NO	0- 15	2 (P.Z.)
	15- 39	12
	39- 72	8
	72-140	13
EON15	0- 25	3 (P.Z.)
	25- 72	12
	72- 92	4
	92-109	9
	109-124	14
EON3O	0- 32	4 (P.Z.)
	32- 80	15
	80- 94	16
	94-130	17
E45NO	0- 27	3 (P.Z.)
	27- 58	8
	58-125	18
E59NO	0- 17	3 (P.Z.)
	17-127	19
EOS3O	0- 14	5 (P.Z.)
	14- 44	20
	44- 55	8
	55-110	21

APPENDIX II:

7NC-E-43 ARTIFACT INVENTORY

APPENDIX II: ARTIFACT INVENTORY, 7NC-E-43

Controlled Surface Survey (See Figure 2)

Artifact No.

1	red jasper flake
2	red jasper flake
3	brown jasper flake
4	fire-cracked rock
5	quartz flake
6	red jasper flake
7	quartz chunk
8	quartz flake
9	quartz flake
10	quartz flake
11	jasper flake
12	chert flake
13	chert flake
14	chert flake
15	brown jasper flake
16	brown jasper core
17	quartz flake
18	fire-cracked rock
19	fire-cracked rock
20	brown jasper chunk
21	fire-cracked rock
22	red jasper chunk
23	chert flake
24	quartz chunk
25	brown jasper flake
26	red jasper flake
27	brown jasper flake
28	chert flake
29	red jasper flake
30	quartz chunk
31	quartzite chunk
32	quartz chunk
33	red jasper squared-base projectile point
34	quartz flake
35	quartz chunk
36	fire-cracked rock
37	quartz chunk
38	brown jasper flake
39	quartz flake
40	red jasper flake
41	quartz flake
42	quartz chunk
43	quartz flake
44	quartz flake
45	black chert flake
46	quartz chunk
47	red jasper flake
48	quartz chunk
49	quartz flake
50	quartz flake
51	quartz flake
52	quartz flake
53	brown jasper flake
54	quartz flake
55	quartz flake
56	quartz chunk
57	quartz chunk
58	quartz chunk

Summary

7 red jasper flakes
6 brown jasper flakes
17 quartz flakes
5 fire-cracked rocks
1 projectile point
12 quartz chunks
1 brown jasper core
1 brown jasper chunk
1 red jasper chunk
1 quartzite chunk

Site 7NC-E-43

Test Units

W45NO

P.Z.*	1 brown jasper flake 1 brick frag 1 oxidized metal frag 2 clear bottle glass frags
0-10 cm b.p.z.	1 redware sherd
10-20cm b.p.z.	1 chert flake 1 quartz flake 1 brick frag 1 hand-blown green bottle glass frag
20-30cm b.p.z.	1 whiteware sherd 3 brick frags
30-40cm b.p.z.	1 clear glass bottle frag 2 brick frags

W30NO

P.Z.	1 f.c.r. (wc)* 4 quartz flakes (1 wc) 2 red jasper flakes 1 chert flake (wc) 1 brick frag 2 oxidized nail frags 6 redware sherds 2 plain whiteware sherds 1 whiteware sherd, hand-painted polychrome 1 white sherd, black transfer print 1 glass frag, hand-painted polychrome 4 frags of clear glass bottle base, 1 individual
0-10cm	2 quartzite flakes 1 quartz flake 2 brick frags 4 plain whiteware sherds 1 green bottle glass frag 1 historic pipestem frag
10-20cm	1 quartzite flake (wc) 2 whiteware sherds 1 brick frag
20-30cm	2 jasper flakes 2 redware sherds
30-40cm	3 quartz flakes

W15NO

P.Z.	1 brown jasper flake (wc)
	1 red jasper flake
	2 quartz flakes
	1 Minguannon body sherd
	2 frags of 1 railroad spike
	1 frag window glass
	2 sherds redware
	1 sherd whiteware

E2NO

P.Z.	1 brown jasper utilized flake (wc)
	4 quartz flakes
	4 quartz chunks
	1 red jasper flake
	4 window glass frags
	1 clear glass bottle frag
	1 whiteware sherd
	11 sherds, flower pot ware
	1 square nail frag

EON15

P.Z.	15 red jasper flakes (2 wc)
	3 brown jasper flakes
	4 quartz flakes
	1 f.c.r.
	2 whiteware sherds
	3 redware sherds
	1 nail frag
	2 brick frags

EON30

P.Z.	19 brown jasper flakes (2 wc)
	13 red jasper flakes
	5 quartz flakes
	1 quartzite flake (wc)
	1 Minguannon sherd
	1 brown jasper utilized flake
	1 sherd, flower pot ware
0-10cm	1 brown jasper flake
10-20cm	1 brown jasper flake

E45NO

P.Z.	1 window glass frag

E59NO

P.Z.	2 redware sherds

1 window glass frag

E0S30

P.Z.
1 red jasper flake
2 f.c.r. (1 wc)
1 whiteware sherd
2 window glass frags

E16N17

P.Z.
2 quartz flakes (1 wc)
6 red jasper flakes (1 wc)
1 chert flake
1 redware sherd
2 oxidized nail frags

0-10cm
1 quartz flake

E28N20

P.Z.
1 quartz flake
1 red jasper flake (wc)
2 oxidized nail frags
4 segments, heavy gauge wire
1 sherd flower pot ware
1 hard shell clam frag

0-10cm
1 quartz flake

E5N30

P.Z.
1 quartz notched proj. pt., most of base missing
4 quartz flakes (1 wc)
19 red jasper flakes (1 wc)
7 brown jasper flakes
2 window glass frags
2 gray chert flakes
2 redware sherds
1 light green bottle glass frag

E11N30

P.Z.
2 quartz flakes (1 wc)
3 jasper flakes
1 weathered bone frag
2 window glass frags

E17N30

P.Z.
6 red jasper flakes
2 quartz flakes
2 chert flakes (1 wc)
1 quartzite flake
1 brown jasper flake
1 whiteware sherd

11 sherds flower pot ware
4 clear glass bottle base frags
1 heavy gauge wire frag
1 walnut

E23N3O

P.Z.
1 argillite projectile point
5 red jasper flakes (1 wc)
4 gray chert flakes (1 wc)
7 quartz flakes (2 wc)
1 oxidized nut and bolt
1 brick frag
1 window glass frag

E29N3O

P.Z.
3 red jasper flakes
2 chert flakes
2 quartz flakes
1 Minguannon cord-marked sherd
6 sherds flower pot ware
4 clear bottle glass frags
1 green bottle glass frag
1 insulator fragment
13 oxidized nail frags

EON6

P.Z.
1 quartz flake
1 quartzite flake (wc)
7 quartz flakes (1 wc)

EON24

P.Z.
1 f.c.r. (wc)
1 quartzite flake (wc)
7 quartz flakes (1 wc)
9 red jasper flakes
1 black chert flake
1 whiteware sherd
1 redware sherd
1 square nail frag
1 green bottle glass frag

EON37

P.Z.
3 red jasper flakes
1 brown jasper flake
1 black chert flake
3 quartz flakes (1 wc)
1 slip-decorated redware sherd

E11N24

P.Z.
1 f.c.r. (wc)

4 red jasper flakes
2 quartz flakes
2 oxidized nail frags
1 window glass frag
1 coal ash frag

E23N24

P.Z.
4 red jasper flakes
3 brown jasper flakes
1 quartz flake
2 quartz chunks
1 redware sherd
1 brick frag
1 sherd, flower pot ware

*P.Z. = plowzone
f.c.r. = fire cracked rock
(wc) = with cortex

ARTIFACT SHEET
SITE 7NC-E-43

	PROJECTILE POINTS	RED JASPER FLAKES	BROWN JASPER FLAKES	QUARTZ FLAKES	QUARTZITE FLAKES	CHERT FLAKES	RED JASPER CHUNKS	BROWN JASPER CHUNKS	QUARTZ CHUNKS	QUARTZITE CHUNKS	CHERT CHUNKS	F.C.R.	HAMMERSTONE	BROWN JASPER CORE	UTILIZED FLAKES	
W45N0 PLOW ZONE			1													
LEVEL 1																
LEVEL 2				1		1										
LEVEL 3																
LEVEL 4																
LEVEL 6				1												
W30N0 PLOW ZONE		2		4(1)		1(1)						1(1)				
LEVEL 1				1	2											
LEVEL 2					1(1)											
LEVEL 3			2													
LEVEL 4				3												
W15N0 PLOW ZONE		1	1(1)	2												
E2N0 PLOW ZONE		1		4					4						1	
E0N15 PLOW ZONE		15(2)	3	4								1				
E0N30 PLOW ZONE		13	19(2)	5	1(1)										1	
LEVEL 1			1													
LEVEL 2			1													
E45N0 PLOW ZONE																
E59N0 PLOW ZONE																
E0S53 PLOW ZONE		1										2(1)				
E16N17 PLOW ZONE		5(1)	1	2(1)		1										
LEVEL 1				1												
E28N20 PLOW ZONE		1(1)		1												
LEVEL 1				1												
E5N30 PLOW ZONE	1	19(1)	7	4(1)		2										

ARTIFACT SHEET
SITE 7NC-E-43

	FLOWER POT WARE	RAILROAD SPIKE	HISTORICAL PIPE SHERD FRAGMENT	GREEN BOTTLE GLASS	VESSEL FRAGMENT CLEAR GLASS HAND PAINTED POLYCROME	WINDOW GLASS	CLEAR BOTTLE GLASS FRAGMENTS	HARD SHELL CLAM FRAGMENTS	BLACK TRANSFER WHITEWARE	POLYCROME WHITEWARE	PLAIN WHITEWARE	SLIP DECORATED REDWARE	MONOCHROME REDWARE	NAIL FRAGMENTS	MINGUANNON SHERDS
W45N0 PLOW ZONE							2							1	
LEVEL 1													1		
LEVEL 2				1											
LEVEL 3											1				
LEVEL 4							1								
LEVEL 6															
W30N0 PLOW ZONE					1		4		1	1	2		6	2	
LEVEL 1			1	1							4				
LEVEL 2											2				
LEVEL 3													2		
LEVEL 4															
W15N0 PLOW ZONE		2				1					1		2		1
E2N0 PLOW ZONE	11					4	1				1			1	
E0N15 PLOW ZONE											2		3	1	
E0N30 PLOW ZONE	1														1
LEVEL 1															
LEVEL 2															
E45N0 PLOW ZONE						1									
E59N0 PLOW ZONE						1							2		
E0S53 PLOW ZONE						2					1				
E16N17 PLOW ZONE													1	2	
LEVEL 1															
E28N20 PLOW ZONE	1							1						2	
LEVEL 1															
E5N30 PLOW ZONE				1		2							2		

ARTIFACT SHEET

SITE 7NC-E-43

	BRICK	HEAVY GAUGE WIRE	LONG BONE	INSULATOR												
W45N0 PLOW ZONE	1															5
LEVEL 1																1
LEVEL 2	1															4
LEVEL 3	3															4
LEVEL 4	3															4
LEVEL 6	2															3
W30N0 PLOW ZONE	1															26
LEVEL 1	2															11
LEVEL 2	1															4
LEVEL 3																4
LEVEL 4																3
W15N0 PLOW ZONE																11
E2N0 PLOW ZONE																28
E0N15 PLOW ZONE	2															31
E0N30 PLOW ZONE																41
LEVEL 1																1
LEVEL 2																1
E45N0 PLOW ZONE																1
E59N0 PLOW ZONE																3
E0S30 PLOW ZONE																6
E16N17 PLOW ZONE																12
LEVEL 1																1
E28N20 PLOW ZONE		4														10
LEVEL 1																1
E5N30 PLOW ZONE																38

ARTIFACT SHEET
SITE 7NC-E-43

	PROJECTILE POINTS	RED JASPER FLAKES	BROWN JASPER FLAKES	QUARTZ FLAKES	QUARTZITE FLAKES	CHERT FLAKES	RED JASPER CHUNKS	BROWN JASPER CHUNKS	QUARTZ CHUNKS	QUARTZITE CHUNKS	CHERT CHUNKS	F.C.R.	HAMMERSTONE	BROWN JASPER CORE	UTILIZED FLAKES	
E11N30 PLOW ZONE			3	2(1)												
E17N30 PLOW ZONE		6	1	2	1	2(1)										
E23N30 PLOW ZONE	1	5(1)		7(2)		4(1)										
E29N30 PLOW ZONE		3		2		2										
E0N6 PLOW ZONE				1												
E0N24 PLOW ZONE		9		7(1)	1(1)	1						1(1)				
E0N37 PLOW ZONE		3	1	3(1)		1										
E11N24 PLOW ZONE		4		2								(1)				
E23N24 PLOW ZONE		4	3	1					2							
CONT. SURF. COLL.	1	7	6	17		6	1	1	12	1		5		1		
TOTAL	3	99 (6)	50 (3)	78 (8)	6 (3)	21 (3)	1	1	18	1		11 (4)		1	2	

ARTIFACT SHEET
SITE 7NC-E-43

	MINGUANNON SHERDS	NAIL FRAGMENTS	MONOCHROME REDWARE	SLIP DECORATED REDWARE	PLAIN WHITEWARE	POLYCHROME WHITEWARE	BLACK TRANSFER WHITEWARE	HARD SHELL CLAM FRAGMENTS	CLEAR BOTTLE GLASS FRAGMENTS	WINDOW GLASS	VESSEL FRAGMENT CLEAR GLASS HAND PAINTED POLYCHROME	GREEN BOTTLE GLASS	HISTORICAL PIPE SHERD FRAGMENT	RAILROAD SPIKE	FLOWER POT WARE	
E11N30 PLOW ZONE										2						
E17N30 PLOW ZONE					1				4						11	
E23N30 PLOW ZONE		1								1						
E29N30 PLOW ZONE	1	13							4			1			6	
E0N6 PLOW ZONE		2	2													
E0N24 PLOW ZONE		1	1									1				
E0N37 PLOW ZONE				1												
E11N24 PLOW ZONE		2								1						
E23N24 PLOW ZONE															1	
CONT. SURF. COLL.																
	3	28	22	1	15	1	1	1	16	15	1	5	1	2	31	

ARTIFACT SHEET
SITE 7NC-E-43

	BRICK	HEAVY GAUGE WIRE	LONG BONE	INSULATOR												
E11N30 PLOW ZONE			1													8
E17N30 PLOW ZONE		1														29
E23N30 PLOW ZONE	1															20
E29N30 PLOW ZONE				1												33
E0N6 PLOW ZONE																5
E0N24 PLOW ZONE																22
E0N37 PLOW ZONE																9
E11N24 PLOW ZONE																10
E23N24 PLOW ZONE	1															12
CONT. SURF. COLL.																58
	18	5	1	1												118

NOTES:

58 ARTIFACTS ON SURFACE

360 ARTIFACTS IN PLOW ZONE

42 ARTIFACTS IN SUBSOIL (11%) of total subsurface)

( ) INDICATE LITHIC ARTIFACTS EXHIBITING CORTEX

APPENDIX III:

7NC-E-45 TEST UNIT PROFILES

APPENDIX III, PROFILES OF TEST UNITS, 7NC-E-45

Unit	Depth	Soil
W6NO	0- 27	1 (P.Z.)
	27- 70 (Slopes)	22
	70- 80 (Slopes)	23
	80- 99 (Slopes)	24
W35NO	0- 29	3 (P.Z.)
	29- 60	25
	60-103	26
W64NO	0- 41	3 (P.Z.)
	41- 60	27
	60- 82	28
W39NO	0- 34	3 (P.Z.)
	34- 70	29
	70-120	30
W123NO	0- 16	8 (P.Z.)
	16- 42	31
	42- 65	32
W35N19	0- 28	33 (P.Z.)
	28- 32	34
	32- 43	35
	43- 57	4
	57- 75	36
	75- 87	37
W35N10	0- 28	1 (P.Z.)
	28- 63	38
	63- 80	39
	40- 88 (intrusive)	23
	74- 92	40
	92-115	41
	115-117	37
W16N19	0- 33	42 (P.Z.)
	33- 96	43
	96-102	44

APPENDIX IV:

7NC-E-45 ARTIFACT INVENTORY

APPENDIX IV: ARTIFACT INVENTORY, 7NC-E-45

Controlled Surface Collection (See Fig. 2)

Artifact No.

1	chert flake
2	jasper chunk
3	quartz chunk
4	quartz chunk
5	quartz flake
6	quartz flake
7	quartz flake
8	quartzite flake
9	quartz flake
10	chert flake
11	quartz chunk
12	quartz core
13	quartz chunk
14	jasper flake
15	quartz chunk
16	chert chunk
17	quartz chunk
18	quartz flake
19	quartz flake
20	quartz chunk
21	quartz chunk
22	quartz flake
23	quartz flake
24	quartz flake
25	quartz flake
26	quartz chunk
27	quartz chunk
28	quartz flake
29	chert flake
30	quartz chunk
31	quartz flake
32	quartz flake
33	quartz chunk
34	quartz flake
35	quartz chunk
36	quartz flake
37	quartz flake
38	quartz flake
39	quartz flake
40	2 quartz flakes
41	quartzite flake
42	quartz flake
43	quartz flake
44	quartz flake
45	quartz flake
46	quartz flake
47	quartz flake
48	distal end, quartz proj. pt.
49	quartz flake
50	quartz chunk
51	quartz flake
52	chert flake
53	quartz flake
54	quartz chunk
55	quartz flake
56	quartz chunk
57	red jasper flake
58	quartz flake
59	red jasper Fox Creek-like projectile point
60	quartzite contracting stem projectile point
61	quartz flake
62	quartz chunk
63	chert chunk
64	quartzite flake
65	sandstone hammerstone
66	quartz flake
67	red jasper square stem projectile point

Summary

4	chert flakes
2	jasper flakes
34	quartz flakes
3	quartzite flakes
15	quartz chunks
1	jasper chunk
1	quartz core
2	chert chunks
1	sandstone hammerstone
1	distal end, quartz proj. pt.
1	quartzite contr. stem proj. pt.
1	red jasper square stem proj. pt.
1	red jasper Fox Creek-like Proj. pt.

General Surface Collection, no provenience

1 median section, gray chert projectile point
1 contracting stem, squared end quartz projectile point
17 quartz flakes (3 with cortex)
1 quartz core frag
4 quartz chunks
3 red jasper flakes
1 red quartzite flake
1 f.c.r. (wc)
1 weathered chert chunk, possible core
1 porcelain cup handle frag
3 whiteware sherds
1 brass button, ring back
7 redware sherds

Tests Units

W6NO

P.Z.	1 quartzite flake
	2 quartz chunks (1 wc)
	1 clear glass bottle frag
	3 brick frags, 1 glazed

W35NO

P.Z.	1 oxidized nail frag
	2 plain whiteware sherds
	1 black transfer print whiteware sherd
0-10cm	1 brown jasper flake (wc)
20-30cm	1 brown jasper flake

W64NO

P.Z.	6 plain whiteware sherds
	1 black transfer print whiteware sherd
	6 redware sherds
	2 clear glass bottle frags
	1 green bottle glass lip and neck frag

W93NO

P.Z.	1 chert flake (wc)
	2 quartz flakes
	2 redware sherds
	1 whiteware sherd

W123NO

P.Z.	5 quartz flakes
	1 chert flake

1 red jasper flake
1 clear glass bottle frag

W35N19

P.Z.
2 quartz flakes
1 oxidized nail frag
1 redware sherd
1 sherd, blue shell-edge whiteware
1 plain whiteware sherd
2 brick frags
1 clear glass bottle frag

W35N10

P.Z.
4 redware sherds
1 clear glass bottle frag

W16N19

P.Z.
1 jasper flake
1 chert flake (wc)
1 quartzite flake
1 chert chunk
4 redware sherds
4 plain whiteware sherds
1 blue shell-edge whiteware sherd
2 pearlware sherds
1 oxidized nail frag

20-30cm
1 quartz flake (wc)
1 redware sherd

ARTIFACT SHEET
SITE 7NC-E-45

	PROJECTILE POINTS	RED JASPER FLAKES	BROWN JASPER FLAKES	QUARTZ FLAKES	QUARTZITE FLAKES	CHERT FLAKES	RED JASPER CHUNKS	BROWN JASPER CHUNKS	QUARTZ CHUNK	QUARTZITE CHUNK	CHERT CHUNKS	F.C.R.	HAMMERSTONE	QUARTZ CORE	UTILIZED FLAKES	continued on next page
CONTROLLED SURF. COLL.	4		2	34	3	4		1	15		2		1	1		
UNPROVIEN. SURF. COLL.	2	3		17(3)	1				4		1	1(1)		1		
W6N0 PLOW ZONE					1				2(1)							
W35N0 PLOW ZONE																
LEVEL 1			1(1)													
LEVEL 3			1													
W64N0 PLOW ZONE																
W93N0 PLOW ZONE						1(1)			2							
W123N0 PLOW ZONE		1		5		1										
W35N19 PLOW ZONE				2												
W35N10 PLOW ZONE																
W16N19 PLOW ZONE			1		1	1(1)					1					
LEVEL 2				1(1)												
HISTORIC SURF. COLL.																
TOTAL	6	4	5 (1)	59 (4)	6	7 (2)		1	23 (1)		4 (1)	1	1	2		

ARTIFACT SHEET
SITE 7NC-E-45

	NAIL FRAGMENTS	MONOCHROME REDWARE	PLAIN WHITEWARE	BLUE SHELL EDGE WHITEWARE	BLACK TRANSFER WHITEWARE	CLEAR WINDOW GLASS FRAGMENTS	CLEAR BOTTLE GLASS FRAGMENTS	BROKEN BOTTLE GLASS	PORCELAIN SHERDS	BRASS BUTTON	BRICK FRAGMENTS	PEARLWARE				TOTAL
CONTROLLED SURF. COLL.																67
UNPROVIEN. SURF. COLL.		4	2						1	1						38
W6N0 PLOW ZONE							1				3					7
W35N0 PLOW ZONE	1		2		1											4
LEVEL 1																1
LEVEL 3																1
W64N0 PLOW ZONE		6	6		1		2	1								16
W93N0 PLOW ZONE		2	1													6
W123N0 PLOW ZONE							1									8
W35N19 PLOW ZONE	1	1	1	1			1				2					9
W35N10 PLOW ZONE		4					1									5
W16N19 PLOW ZONE	1	4	4	1								2				10
LEVEL 2		1														2
HISTORIC. SURF. COLL.		3	1								1					5
TOTAL	3	25	17	2	2		6	1	1	1	6	2				181

NOTES:

110 ARTIFACTS ON SURFACE

71 IN PLOW ZONE

4 IN SUBSOIL (5% of total subsurface)

() INDICATE LITHIC ARTIFACTS EXHIBITING CORTEX

APPENDIX V:

7NC-D-75 TEST UNIT PROFILES

APPENDIX V, PROFILES OF TEST UNITS, 7NC-D-75

Unit	Depth	Soil
1	0- 20	1 (P.Z.)
	20- 50	20
	50-150	45
2	0-22	46 (P.Z.)
	22-36	47
3	0-22	48 (P.Z.)
	22-32	49
4	0-25	3 (P.Z.)

APPENDIX VI:

7NC-D-75 ARTIFACT INVENTORY

APPENDIX VI: ARTIFACT INVENTORY, 7NC-D-75

General Surface Collection, unprovenienced

1 side-notched black chert proj. pt., distal end missing
1 quartzite flake (wc)
1 quartz flake
1 brown jasper flake (wc)
3 red jasper flakes
4 black chert flakes

Test Units

T.U. 1

4 f.c.r. (all wc)
2 quartz chunks (both wc)
1 brown jasper flake
2 red jasper flakes
1 black chert flake (wc)
3 dark gray chert flakes
6 quartz flakes (1 wc)
1 Minguannan sherd
1 long bone frag
1 clear glass bottle frag
5 green glass bottle frags
8 oxidized nail frags

0-10cm

1 brown jasper flake scraper (wc)
1 red jasper flake

30-40cm

1 black chert flake (wc)

T.U. 2

P.Z.

1 quartz reworked biface, poss. hafted scraper: base resembles Susquehanna-broadspear
1 quartz chunk (wc)
7 quartz flakes
8 red jasper flakes (1 wc)
1 red quartzite flake (wc)
7 gray chert flakes (1 wc)
2 black chert flakes
1 redware sherd

T.U. 3

P.Z.

1 red jasper biface frag (either base or tip)
2 brown jasper flakes (1 wc)
1 red jasper flake
1 red quartzite flake
3 quartz flakes
2 redware sherds
2 whiteware sherds
1 oxidized square nail frag

0-10cm	1 brown quartzite flake (wc) 1 red quartzite flake

T.U. 4

P.Z.	8 red jasper flakes (1 wc) 7 quartz flakes 2 window glass frags 1 oxidized nail frag

T.U. 5

P.Z.	3 quartz flakes (1 wc) 1 whiteware sherd 1 redware sherd

T.U. 6

P.Z.	1 Rossville-like quartzite projectile point 2 quartz flakes 1 clear glass bottle frag 4 whiteware sherds 5 redware sherds

ARTIFACT SHEET
SITE 7NC-D-75

	PROJECTILE POINT	RED JASPER FLAKE	BROWN JASPER FLAKE	QUARTZ FLAKES	QUARTZITE FLAKES	CHERT FLAKES	JASPER FLAKE SCRAPER	QUARTZ CHUNK	MINGUANNON SHERD	F.C.R.	LONG BONE FRAGMENT	CLEAR BOTTLE GLASS	GREEN BOTTLE GLASS	WINDOW GLASS	NAIL FRAGMENTS	continued on next page
GEN. SURF., UNPROVIEN.	1	3	1(1)	1	1(1)	4										
TEST UNIT 1 PLOW ZONE		2	1	6		4		2(2)	1	4(4)	1	1	5		8	
LEVEL 1		1					1(1)									
LEVEL 4						1(1)										
TEST UNIT 2 PLOW ZONE	1	8(1)		7	1(1)	9(1)		1(1)								
TEST UNIT 3 PLOW ZONE	1	1	2(1)	3	1										1	
LEVEL 1					2(1)											
TEST UNIT 4 PLOW ZONE		8(1)		7										2		
TEST UNIT 5 PLOW ZONE				3												
TEST UNIT 6 PLOW ZONE	1			2									1			
TOTAL	4	23 (2)	4 (2)	29	5 (3)	18 (2)	1 (1)	3 (3)	1	4 (4)	1	1	6	2	9	

ARTIFACT SHEET
SITE 7NC-D-75

	PLAIN WHITEWARE	REDWARE SHERDS														TOTAL
GEN. SURF., UNPROVIEN.																11
TEST UNIT 1 PLOW ZONE																35
LEVEL 1																2
LEVEL 4																1
TEST UNIT 2 PLOW ZONE		1														28
TEST UNIT 3 PLOW ZONE	2	2														13
LEVEL 1																2
TEST UNIT 4 PLOW ZONE																17
TEST UNIT 5 PLOW ZONE	1	1														5
TEST UNIT 6 PLOW ZONE	4	5														13
TOTAL	7	9														127

NOTES:

11 ARTIFACTS ON SURFACE

111 ARTIFACTS IN PLOW ZONE

5 ARTIFACTS IN SUBSOIL (4% of total subsurface)

( ) INDICATE LITHIC ARTIFACTS EXHIBITING CORTEX